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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,887	12/26/2001	Woo Sik Kim	P-0299	9244

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EXAMINER

NGUYEN, LINH V

ART UNIT

PAPER NUMBER

2819

DATE MAILED: 07/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/025,887	KIM ET AL.	
	Examiner	Art Unit	
	Linh V. Nguyen	2819	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 5/20/03.

2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1 and 32 is/are pending in the application.

4a) Of the above claim(s) 27 - 32 is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1 - 7, 11, 12, 14, 15, 20, 21, and 24 is/are rejected.

7) ☒ Claim(s) 8, 9, 10, 13, 16 - 19, 22, 23, 25 and 26 is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on 26 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some * c) ☐ None of:

1. ☒ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. _____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____	6) <input type="checkbox"/> Other: _____

Election/Restrictions

1. Applicant's election with traverse of election in Paper No. 6 is acknowledged. The traversal is on the ground(s) that the distinct of independent inventions does not create a serious burden for examination. This is not found persuasive because independent claims of group 1 and independent claims of group 2 (from prior office action) are drawing to two separate classes (330 for amplifier circuit, and 341 for digital to or from analog converter), which creates a serious burden for the search and examination. The requirement is still deemed proper and is therefore made FINAL.

Group 1, Claims 1- 26, has elected with traverse from applicant for this office action.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

Art Unit: 2819

directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1 – 5, 15, 20, 21, and 24, are rejected under 35 U.S.C. 102(e) as being anticipated by Posner et al. U.S. patent No. 6531918.

Regarding to claim 1, Fig. 1, Postner et al. disclose a digital linearizer comprising: a main amplifying unit configured to amplify a digital input signal (20) on a first path (22); a distortion component (96,98) detecting unit coupled to receive the digital input signal on a second path (20) and an output signal (76,30) of the main amplifying unit (14) and detect distortion components from the output signal of the main amplifying unit (14); and a correlating unit (16) coupled to receive the digital input signal on a third path (80) and the detected distortion components (124) and configured to correlate the detected distortion components with the digital input signal to adaptively control the distortion component detecting unit.

Regarding to claim 2, the digital linearizer of claim 1, wherein the distortion component detecting unit outputs a compensation signal (172) that is applied to the amplified digital input signal to remove a distortion component.

Regarding to claim 3, the digital linearizer of claim 1, wherein the correlating unit is configured to adaptively control a gain (94c, 94d) of the digital input signal on the second path according to a level of the distortion components.

Regarding to claim 4, the digital linearizer of claim 1, further comprising: an error amplifying unit (102) configured to amplify the detected distortion components received

from the distortion component detection unit; and a directional coupler configured (128) to couple the output signal of the main amplifying unit with an output signal of the error amplifying unit to remove the distortion components from the output signal of the main amplifying unit.

Regarding to claim 5 the digital linearizer of claim 1, wherein the distortion component detection unit comprises a gain controller (96) configured to control a gain of the digital input signal on the second path according to a gain control signal (94c) output from the correlating unit.

Regarding to claims 15, 20, 21, and 24, Proctor et al. as applied to claims 1 – 5, above disclose every aspect of applicant's claimed invention.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 6, 7, 11, 12, and 14, are rejected under 35 U.S.C. 103(a) as being unpatentable over Posner et al., in view of Ha U.S. patent No. 6240144.

Postner et al. as applied to claims 1 – 5 above disclose every aspect of applicant's claimed invention, except for not explicitly disclose in his controller gain is coupled to receive first and second gain control signals to individually control first and second components of the digital input signal; wherein the first component of the digital

Art Unit: 2819

input signal is an In-phase component I and wherein the second component of the digital input signal is a quadrature phase component Q, however I and Q phase component are well know concept and convention art specially for RF communication as has indicated by Ha (Fig.2). Therefore it would have been obvious for one ordinary skill in the art at the time the invention was made, to utilize the digital amplified device of Posner et al. with the concept of I and Q of Ha.

Allowable Subject Matter

6. Claims 8, 9, 10, 13, 16 – 19, 22, 23, 25, and 26, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Linh Van Nguyen whose telephone number is (703) 305-1934. The examiner can normally be reached from 8:30 – 5:00 Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Michael Tokar can be reached at (703) 305-3493. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications. Any inquiry of a general nature or relating to the status of this

Application/Control Number: 10/025,887


Page 6

Art Unit: 2819

application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

LVN

June 10, 2003


Michael Tokar
Supervisory Patent Examiner
Technology Center 2800